

September 21, 2001

MEMORANDUM TO: Claudia Craig, Section Chief, Section 1
Project Directorate III
Division of Licensing Project Manager
Office of Nuclear Reactor Regulation

FROM: Mohammed Shuaibi, Project Manager, Section 1/**RA**/
Project Directorate III
Division of Licensing Project Manager
Office of Nuclear Reactor Regulation

SUBJECT: MEETING SUMMARY FOR AUGUST 23, 2001, PUBLIC WORKSHOP
RELATED TO DRAFT GUIDANCE FOR MEASUREMENT
UNCERTAINTY RECAPTURE POWER UPRATES

The staff held a public workshop on August 23, 2001, from 1:00 to 4:30 p.m., at the U.S. Nuclear Regulatory Commission's Headquarters in the Two White Flint North (TWFN) Auditorium to (1) discuss draft guidance developed by the staff for licensees' use in preparing applications for measurement uncertainty recapture power uprates and (2) obtain feedback on the draft guidance with respect to scope, depth, clarity, and specificity of the guidance. The meeting notice for the workshop was issued on August 3, 2001 (ADAMS Accession Number ML012140203), and included the draft guidance as an attachment.

The draft guidance identifies the staff's information needs for reviewing measurement uncertainty recapture power uprate applications. The draft guidance is intended to allow licensees to optimize their applications for staff review and, thereby, eliminate or minimize the need for requests for additional information (RAIs). The staff estimated that the review time for applications that result in no RAIs can be reduced by about 2 to 3 months from the current average of 6 to 8 months.

A total of 65 people attended the workshop, about half of which were external stakeholders. A list of attendees is provided in Attachment 1. The workshop started with introductions and remarks by Mr. John Zwolinski, Director, Division of Licensing Project Management (DLPM), Office of Nuclear Reactor Regulation (NRR). Introductions were followed by opening remarks by Mr. Brian Sheron, Associate Director for Project Licensing and Technical Analysis, NRR. Following the opening remarks, I provided an overview of the staff's effort to develop the draft guidance. The slides used for the presentation by the NRC are provided in Attachment 2.

Following the presentations, the participants were divided into four groups. The groups performed a more detailed review of the draft guidance and developed feedback for the NRC to consider in finalizing the guidance. The groups then presented their feedback to the other participants at the workshop. The feedback is included in Attachment 3. Participants were generally supportive of the approach the staff had taken (i.e., providing guidance to eliminate or minimize the need for RAIs). However, the feedback identified the need for the staff to: (1) clarify certain terms (e.g., effect, affected, change) used in the draft guidance, (2) confirm that certain information provided in previous applications but not specifically identified in the

draft guidance is, in fact, not needed for staff review, (3) justify the need for certain information identified in the draft guidance, (4) clarify the role of 10 CFR 50.59, and (5) discuss the role of previously approved methods, both for the plant requesting the change and for other plants.

Mr. S. Singh Bajwa, Director, Project Directorate III-1, DLPM, NRR, concluded the workshop with closing remarks. In his closing remarks, Mr. Bajwa expressed his satisfaction with the active participation of attendees and stated that the staff will consider the feedback received in its efforts to finalize the guidance. He also recognized the need to issue final guidance on an accelerated schedule and indicated that the staff will work hard to issue the final guidance in the short term.

Attachments: 1. List of Attendees
2. NRC Slides for August 23, 2001, Public Workshop
3. Stakeholder Feedback on Draft Guidance for Measurement Uncertainty
Recapture Power Upgrades

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1. List of Attendees
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 3. Stakeholder Feedback on Draft Guidance for Measurement Uncertainty Recapture Power Upgrades

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| NAME | MShuaibi | RBouling | CCraig |
| DATE | 9/20/01 | 9/21/01 | 9/21/01 |

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LIST OF ATTENDEES

| <u>NAME</u> | <u>ORGANIZATION</u> |
|--------------------|----------------------------|
| A. Marinos | NRC/NRR |
| B. Sheron | NRC/NRR |
| B. Hobbs | Vermont Yankee |
| B. Boman | Framatome ANP |
| C. Tomes | NMC |
| C. Craig | NRC/NRR |
| C. Holden | NRC/NRR |
| C.I. Wu | NRC/NRR |
| C.T. Baucom | Carolina Power & Light |
| D. Raleigh | U.S. Scientist |
| E. G. Adensam | NRC/NRR |
| E. Firth | Entergy-IP3 |
| E. Hauser | Caldon |
| F. Akstulewicz | NRC/NRR |
| G. Zinke | Entergy |
| G. Georgiev | NRC/NRR |
| G. Brauer | Bechtel |
| H. Blake | Dominion |
| H. C. Garb | NRC/NRR |
| H. Hanneman | Nuclear Management Company |
| I. Ahmed | NRC/NRR |
| J. Vandenbrock | Southern California Edison |
| J. Burford | Entergy |
| J. Goshen | NRC/NRR |
| J. Voss | Excel Services |
| J. Fasnacht | Westinghouse |

NAME**ORGANIZATION**

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| J. Beall | NRC/OCM |
| J. Hopkins | NRC/NRR |
| J. Regan | Caldon/KeyTech |
| J. Klapproth | General Electric Nuclear Energy Corporation |
| J. Wermiel | NRC/NRR |
| J. Lamb | NRC/NRR |
| J. Zwolinski | NRC/NRR |
| K. Weller | TVA-Sequoyah |
| L. Guewa | Vermont Yankee |
| M. Dick | General Electric Nuclear Energy Corporation |
| M. Earle | Dominion |
| M. Kowal | NRC/NRR |
| M. May | Exelon Corporation |
| M. McConnell | NRC/NRR |
| M. Schoppman | Nuclear Energy Institute |
| M. Shuaibi | NRC/NRR |
| M. Williams | American Electric Power Company, Inc. |
| M. Smith | Duke Energy |
| M. Knapik | Platts |
| N. Hamley | Stone & Webster |
| N. Chapman | Serch/Bechtel |
| N.K. Trehan | NRC/NRR |
| P. Schoepf | American Electric Power Company, Inc. |
| P. Clifford | Calvert Cliffs |
| P. Golub | Exelon |
| R. Hoston | LSS |
| R. Caruso | NRC/NRR |
| R. Subbaratham | NRC/NRR |

NAME**ORGANIZATION**

| | |
|---------------|-----------------------------------|
| R. M. Taylor | NRC/NRR |
| R. Young | NRC/NRR |
| R. Shankar | Electric Power Research Institute |
| R. Lobel | NRC/NRR |
| R. Hernan | NRC/NRR |
| S. Peters | NRC/NRR |
| S. Bajwa | NRC/NRR |
| S. Jones | NRC/NRR |
| T. Behringer | Sargent & Lundy |
| T. Scarbrough | NRC/NRR |
| U. Bhachu | NRC/NRR |

NRC/NRR = Nuclear Regulatory Commission/Office of Nuclear Reactor Regulation

**STAKEHOLDER FEEDBACK ON DRAFT GUIDANCE FOR
MEASUREMENT UNCERTAINTY RECAPTURE POWER URPATES**

Group I:

- I.1. Terms like "affected," "bounded," "change," and "needed to be modified" should be defined. The definitions should clarify the NRC's need for information related to assumptions, inputs, and outputs of analyses. A threshold should be established for these terms to determine when detailed information and NRC review is required.
- I.2. For plants that were licensed prior to the standard review plan (SRP), what method should be used to justify the power uprate (plant-specific or SRP method)? If the licensee implements a method from the SRP (as indicated in the guidance), would the NRC consider that a change in commitment?
- I.3. For Item I.1.A, when an approved methodology is used, the licensees should only have to state that an approved methodology was used. In this case, a description of the methodology should not be necessary. When the licensee deviates from an approved methodology, the licensee should describe the deviation.
- I.4. For Item I.1.C, plant-specific calorimetric uncertainty calculations are dependent upon the technique used. What level of detail is needed for NRC staff review (full calculation or a summary description)?
- I.5. What are the bounds of 10 CFR 50.59 for installation and use of flow elements? What is the threshold for the NRC's review of changes (e.g., installation, crediting improved accuracy in analyses, increasing power level)?
- I.6. For Item II.1.B.2, the staff should clarify what it means by "methods or processes previously approved by the NRC." In addition, how does the 10 CFR 50.59 process (an NRC-approved process) fit in?
- I.7. Clarify the level of detail required for items not affected.
- I.8. Is the accident/transient list provided in III.1 complete? If not, the NRC should provide further guidance on other areas that should be addressed.
- I.9. Item III.1.B. requests information related to inputs and assumptions for accident and transient analyses. The request should pertain to inputs and assumptions that are affected by the power uprate; not all inputs and assumptions.
- I.10. Item III.1.B.iii in the specific guidance appears redundant to Item III.1.I. The NRC should explain any differences intended by including them separately.

- I.11. The level of detail (e.g., plots of parameters, sequence of events) in Item III of the specific guidance is excessive. It is not clear why the NRC needs this level of detail for transient/accident analyses.
- I.12. Consistent with approved methods, Chapter 15 analyses should be deferred to the next affected reload and should not be required to be submitted with power uprate applications. What justification and supporting information is required in order to defer Chapter 15 analyses to the next affected reload?
- I.13. What plant-specific information is required for implementation of approved methods?
- I.14. Previous analyses that have been approved should be allowed as a credible source to justify changes (e.g., grid stability). What information is required to take credit for previous analyses? What information would be required if the previous analyses were submitted for a different plant than the one under review?
- I.15. Clarify the term "NRC approved." Does this mean explicit approval or is implicit approval sufficient? What are examples of NRC approvals?
- I.16. For grid stability, do licensees need to submit, summarize, or reference the calculations?
- I.17. What information and level of detail is required for non-safety-related balance of plant (BOP) systems and equipment?
- I.18. The draft guidance is not clear with respect to the risk information necessary to support the application. What are the NRC's expectations with regard to licensees providing risk information?
- I.19. The NRC should provide guidance on the use of "baseline" vs. "uprate" analyses.
- I.20. The guidance should reference previously issued safety evaluations for similar power uprates.

Group II.

- II.1. Does Item VII.1.A include severe accident management guidelines?
- II.2. The NRC should clarify the statement regarding NRC-approved analyses (Item II) in relation to BOP (Item IV.1.A.v). BOP analyses may not have been approved by the NRC.
- II.3. The draft guidance does not identify the need for information related to pre- and post-uprate conditions (i.e., RCS temperature, pressure, etc.). This information was provided in previous applications for power uprates. Please confirm that this information is not required for future reviews or provide more specific guidance on the NRC's information needs in this area.
- II.4. The draft guidance does not identify the need for information related to the steam generator secondary side internal support structure. This information was provided in previous applications for power uprates. Please confirm that this information is not required for future reviews or provide more specific guidance on the NRC's information needs in this area.
- II.5. The draft guidance does not identify the need for information related to instrument calibration procedures and processes. This information was provided in previous applications for power uprates. Please confirm that this information is not required for future reviews or provide more specific guidance on the NRC's information needs in this area.
- II.6. The term "affected" should be replaced with "bounded by existing analysis or design."
- II.7. It is not clear what is intended by "risk-important operator actions" in Item VII.1.B of the draft guidance. What type of risk information should a licensee provide to support conclusions in this area?

Group III.

- III.1. How will the new instrument be used? Will it be used to calibrate existing instruments or will it be used in place of existing instruments?
- III.2. What should a licensee do when the instrument is out of service?
- III.3. For Item I.1.E, does the licensee need to submit the full calculation for the total power measurement uncertainty or will a summary be sufficient?
- III.4. Under II.1, why is Item C needed?
- III.5. Under III.1, why is Item B needed?
- III.6. The level of detail (e.g., plots of parameters, sequence of events) in Item III of the specific guidance is excessive. It is not clear why the NRC needs this level of detail. Information to be provided should be focused on change only.
- III.7. It is not clear what is meant by the word "change."
- III.8. Under Item IV.C., more guidance should be provided to cover the NRC's information needs related to pressure-temperature curves? Do licensees need to generate new pressure-temperature curves or can they justify other approaches (e.g., use of scaling factors)?
- III.9. Many items identified under Section V.1.A of the specific guidance don't appear to be needed for the NRC's review of power uprate applications (e.g., main generator, switchyard). Section V should be eliminated.
- III.10. Under Item VI, it is not clear why a detailed discussion for each system that experiences a change should be provided. The focus of the discussion should be on the change.
- III.11. Under Item VII, it is not clear why Item 1.E (training program) is needed.
- III.12. Under Item VII, it is not clear what Item 2 means. If information for this item is needed, then the information should be provided at a high level.

Group IV.

- IV.1. Under Item I.1.E, what level of detail is required for the calculation of total power uncertainty? The level of detail should be similar to that provided in previous submittals. The information provided in the submittal should also include a table summarizing instrument uncertainty values.
- IV.2. Under Section II.1.B, Items (i) or (iii) seem to be sufficient by themselves. Why do Items (i), (ii), and (iii) need to be satisfied?
- IV.3. Under Section III, what level of detail is required for Item F?
- IV.4. Under Section IV.1, the request for a matrix similar to Item II does not seem to be appropriate.
- IV.5. Under several sections, the specific guidance requests matrices covering items that experience no change. The NRC should provide model matrices to clarify the information needs for each section.
- IV.6. In Item D of Section IV.1, it is not clear what is meant by “code of record.”
- IV.7. Item vi, Under Section VI.1.A requests information related to “heating, ventilation, and air conditioning systems.” This item is very broad. It is obviously not intended to include the plant cafeteria. More specific wording or examples should be provided.
- IV.8. The applicability of Item 2 under Section VII to the measurement uncertainty recapture power uprates is not clear.